



Magnetic Track Brakes



APPLICATIONS

Urban Solutions: Light Rail Vehicles | Metros

KNORR-BREMSE



MAGNETIC TRACK BRAKES

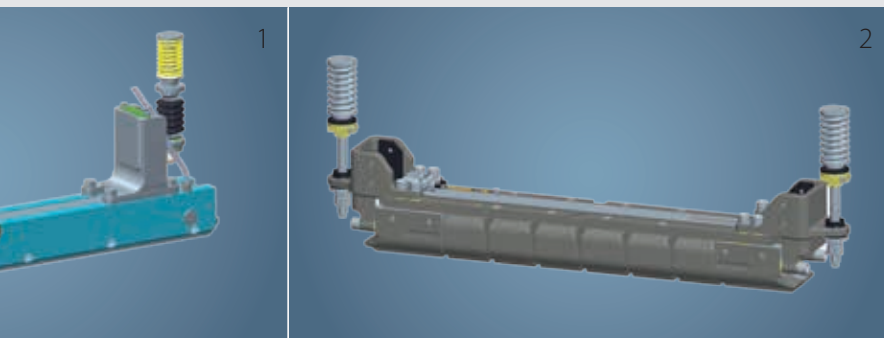


BY APPLYING BRAKING FORCE DIRECTLY TO THE RAIL, track brakes from Knorr-Bremse offer levels of performance and reliability that have been proven through extensive in-service operation around the world.

FUNCTION

- The retarding effect of wheel-brakes, such as hydraulic friction brakes, is influenced heavily by the adhesion between wheel and rail and is therefore limited
- Track brakes do not rely on wheel-rail adhesion and can be used to deliver additional braking if required
- Track brakes apply the braking force directly on to the rail (in the opposite direction to that of travel)
- Magnetic track brakes are magnetically attracted to the rails. The braking force is built up by using the friction between the magnetic track brake and rail. Automatic braking and also emergency braking are typical tasks for magnetic track brakes
- The magnetic track brake is always unregulated and applies its maximum braking force

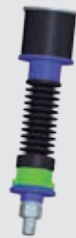
MAGNETIC TRACK BRAKES



- » 1 **Rigid magnets**
Example for MTB designs applied to conventional tram vehicles and metros
- » 2 **Articulated magnets**
Example for MTB designs applied to tram vehicles and metros running at higher speeds

ELASTOMERE SPRING SUSPENSION

- Improved kinematics and dynamics (damping function)
- Reduces noise level significantly
- Reduces wear
- Fail-safe design

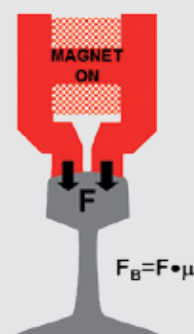


ADVANTAGES OF THE MAGNETIC TRACK BRAKE

- The track brake is an additional brake that is not dependent on adhesion. The total deceleration can be increased safely
- Due to the track-cleaning effect of the brake magnets, the coefficient of adhesion between the wheel and the rail increases during braking. This leads to an improvement for the wheel-brake systems as well

RANGE OF USE

The MTB is activated automatically in the case of an emergency brake application and should also be activated under low adhesion conditions or on steep descents.



- » Functional principles of the magnetic track brake

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